

### REMARKS/ARGUMENTS

The sole independent claims 1 and 4 recite an  $\text{SrO}/(\text{SrO}+\text{BaO})$  ratio of 0.50 - 0.53. This limitation makes it possible to provide a CRT panel having a high X-ray absorption coefficient while having the remarkable effect of suppressing production of the devitrifying stones produced by the presence of SrO or BaO. This claimed ratio is neither disclosed in, or obvious from, the prior art.

A cathode ray tube panel (CRT) must not be subject to coloring called browning from irradiation by the electron beams, the X-rays, and the ultraviolet rays which are produced upon projecting the video images. Moreover, it is also required that the panel glass of the type has a high X-ray absorption coefficient.

In order to satisfy these requirements, a conventional panel contains 0.1% or more  $\text{TiO}_2$  to prevent coloring by irradiation of the ultraviolet rays and to raise the X-ray absorption coefficient. In addition, the conventional panel contains substantially no PbO to prevent coloring by irradiation by the electron beams and the X-rays. Furthermore, it contains enough SrO, BaO,  $\text{ZrO}_2$  and other components replacing PbO to raise the X-ray absorption coefficient.

However, these ingredients may cause devitrifying stones to deposit or precipitate.

Taking the above into consideration, claims 1 and 4 provide a CRT panel which exhibits almost no devitrifying stones resulting from above-mentioned ingredients which raise the X-ray absorption coefficient. More particularly, the claimed panel contains, in mass percent, 9-9.5% SrO, 8.5-9% BaO, 0.1-2.5% ZrO<sub>2</sub> to raise the X-ray absorption coefficient and suppress precipitation of the devitrifying stones resulting from the ingredients which raise the X-ray absorption coefficient. In addition, in a panel glass of each of the claims 1 and 4, the components are rigidly limited in mass percent so that SrO/(SrO+BaO) is 0.50 - 0.53. With this limitation, a remarkable effect is achieved in suppressing production of the devitrifying stones, such as strontium silicate and barium disilicate, which are produced due to SrO or BaO.

The claimed panel contains 9% or more SrO, 8.5% or more BaO, and 0.1% or more ZrO<sub>2</sub> to raise the X-ray absorption coefficient and contains 0.1% or more TiO<sub>2</sub> to prevent the coloring of the panel glass by ultraviolet rays.

In contrast, the Steierman reference is clearly different

in composition and does not include  $\text{ZrO}_2$  and  $\text{TiO}_2$ . Therefore, the X-ray absorption coefficient is low and the composition has a low effect as regards suppression of the coloring of the panel by the ultraviolet rays. Furthermore, it does not teach or suggest that such numerical limitations of percents of  $\text{SrO}$  and  $\text{BaO}$  serve to raise the X-ray absorption coefficient and to suppress the production of the devitrifying stones that are produced due to  $\text{SrO}$  or  $\text{BaO}$ .

Accordingly, claims 1 and 4 are respectfully submitted to be patentable over the Steierman patent. The claims dependent thereon are submitted to be allowable therewith.

The cited Yanagisawa et al patent is clearly different from the claimed CRT panel in use and in composition. Since a CRT panel must not be subject to coloring called browning either by electron beams or X-rays, the panel contains substantially no  $\text{PbO}$ . On the other hand, the '811 patent relates to a funnel glass for a CRT. Therefore, it differs fundamentally from the claimed panel. Moreover, the funnel glass composition is different from that of the panel of claim 1 because it contains 5% or more  $\text{PbO}$ . Furthermore, the reference does not disclose or teach that production of devitrifying stones resulting from  $\text{SrO}$  and  $\text{BaO}$  can be suppressed if  $\text{SrO} / (\text{SrO} + \text{BaO})$  is limited to 0.50 - 0.53. At any

rate, the reference relates to a funnel for a cathode ray tube, and it is respectfully submitted not to be obvious to a person of ordinary skill in the art to combine this teaching with that of a CRT panel. Such a combination is respectfully submitted to be based on hindsight provided by applicants' teaching.

As to the cited Petersen et al patent, it is respectfully submitted to be even further removed from the claimed CRT panel. It relates to a ceramic material used for producing a funnel for a CRT. As is well known in the art, funnel materials differ from panel materials. For reasons stated herein above, a combination of Petersen et al with Steierman is not believed to have been obvious to a person of ordinary skill in the art at the time the present invention was made.

A petition for a one-month extension is attached hereto, this RCE replacing the notice of appeal, which would have required the filing of a brief in support of the appeal by February 15, 2004.

Favorable reconsideration and allowance of claims 1-19 are accordingly respectfully solicited.

Respectfully submitted,

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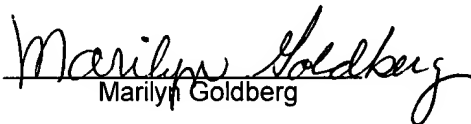


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I hereby certify that this correspondence is being sent by express mail to the US PTO on March 5, 2003.

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